ICRAR & ICRAR-Pawsey Summer Studentships 2016 - 2017
Project Proposal

Project Details	
Project Title	**Finding New Stars Beyond the Edge of Galaxies**
Primary Supervisor	**Prof. Gerhardt Meurer**
Contact Details	gerhardt.meurer@icrar.org
Additional Supervisors & Contact Details	Dr. Ivy Wong Ivy.wong@icrar.org
Additional Resources Required	None (though the computer should have IDL, iraf and ds9)
Student Location for project	UWA
Project Description	The disks of galaxies give are beautiful and majestic and define how we classify them: spiral, irregular, barred, ringed. When observed in the red narrow H-alpha emission line, disk galaxies often have a strong edge: the distribution of H-alpha light ends abruptly, with little light beyond the edge. This marks an edge to the formation of the most massive stars – the O stars that ionize hydrogen. A decade ago, astronomers using ultraviolet telescopes showed that other new stars are still being formed beyond the edge of some galaxies. In this project the student will search for galaxies with H-alpha edges and determine which of these nevertheless have some new stars beyond this edge. The student will work with high quality astronomical images of hundreds of galaxies obtained from telescopes on the Earth and in space.
Student Attributes	
Academic Background	Astronomy and Physics students are preferable
Computing Skills	Use of text editors, and some programming experience preferable
Training Requirement	Training in IDL and relevant applications will be made as needed
Project Timeline	
Week 1	Training (IDL, ds9) and introduction
Week 2	Sample selection
Week 3	Run pipeline on test cases, modify/tune pipeline
Week 4	Run pipeline
Week 5	Run pipeline, compile results
Week 6	Identify galaxies with H-alpha edges
Week 7	Determine ultraviolet properties beyond the edges
Week 8	Write results
Week 9	Write results
Week 10	Write results
	Final Presentation